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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

DEC 2 1981

OFFICE OF
AIR, NOISE, AND RADIATION

MEMORANDUM:

SUBJECT: Noise Regulations

FROM: John M. Ropes, Acting Office Director
for Noise Control Programs (ANR-471) (S)

TO: Edward F. Tuerk, Director
Office of Program Management Operations (ANR-443)

In response to your November 25th request to Ken Feith, we have reviewed the basis for the Agency's previous identifications of major noise sources under Section 5(b)(1) of the Act. We have also reviewed the legislative history of the Act and Congress's report to the President prior to its passage, to confirm that the Agency's "identifications" were consistent with the intent of Congress.

While the Congress recognized that noise is a national problem, it also determined, that unlike air and water pollution, noise is generally a localized problem, not cumulative in the environment and thus not subject to collective treatment and reduction processes. Consequently, the establishment of a national ambient noise level was rejected by Congress and the concept of environmental noise is used throughout the Act to describe the overall level of noise in a given area to which individuals are exposed, including the intensity, duration, and character of sounds from all sources. It also includes the concept of a limitation on noise which would be applicable to every individual source in such a defined geographic area.

The Act does not provide specific criteria or a mechanism by which the Administrator can identify products which are major sources of noise. However, it did direct the Administrator to publish information on the levels of environmental noise, in defined areas and under various conditions, which are requisite to protect the public health and welfare with an adequate margin of safety.

As you know, based on our studies and other scientific data, the Agency adopted an L_{dn} = 55 dB as the level of community noise below which we do not expect any significant adverse human response. Consequently, we have used L_{dn} = 55 dB as the "bench mark" against which to assess the need for and potential benefits from specific product regulations in defined geographical areas.

Ideally, the most dramatic reduction in overall environmental noise would be effected by simultaneously reducing the noise level of all major noise producing products. However, practical considerations of Agency resources dictated that regulatory priorities be established. The Congress identified and listed in Section 6 of the Act, construction equipment, transportation equipment, engines and motors, and electrical or electronic equipment as principal sources of environmental noise. Based on preliminary analysis, construction equipment and transportation equipment were judged to be the most prominent sources of noise impacting the public and thus were selected as the initial candidates for Agency regulatory actions.

Within these broad categories, specific products, i.e., trucks, buses, motorcycles, automobiles, etc., were rank-ordered according to their sound level and sound energy contribution to the environment. It was on this basis that medium and heavy trucks and portable air compressors were formally identified as major sources of noise within their respective categories.

Subsequent to this initial identification of major noise sources, we refined our noise impact assessment techniques to account for both the extent and severity of noise exposures, i.e., the so-called fractional impact and level-weighted population methods. On the basis of additional analysis of construction and transportation equipment employing these improved procedures, buses, motorcycles, truck transport refrigeration units (TTRU's), truck-mounted solid waste compactors (TMSWC's), and wheel and crawler tractors were formally identified. TTRU's and TMSWC's are special auxiliary equipment for trucks and were, in part, identified to complement and assure maximum effectiveness of the truck noise emission regulation.

Our next series of identifications focused on products whose noise levels and geographic areas of use were such that the products posed serious and immediate risk of permanent hearing loss to their operators as well as significant adverse impacts to the public. It was on this basis that the Agency identified power lawnmowers, pavement breakers, and rock drills as major sources of noise. However, the identification of power lawnmowers was prompted, to some degree, by criticism from the Congress that the Agency had been concentrating too much of it's attention on transportation and construction equipment while ignoring consumer products.

Clearly, the regulation of any one or combination of these products would probably not result in a measurable reduction in a national ambient noise level, assuming we could define such a level. However, their regulation was expected to result in significant reductions in impact within their specific geographic impact areas.

You also suggested that we may want to give consideration to a re-evaluation of the criteria that formed the basis for previous identifications of major sources of noise, with an eye toward updating this criteria in light of more recent technical data and expert opinion. We have carried out a preliminary reassessment of the L_{dn} = 55 dB criteria against the

backdrop of original scientific data, social surveys, expert opinion, and public comment. Based on very limited new data and recent opinions of technical experts from both the public and private sectors, there is reason to believe that an in-depth reassessment of these criteria could result in a reduction of an acceptable L_{dn} from 55 to possibly 50 or 45 dB. Obviously, this preliminary assessment is far from rigorous and any final determination would require an extensive study, at least comparable to that carried out prior to the Agency's adoption of L_{dn} = 55 dB. Unfortunately, neither time nor resources are currently available to conduct such a study. Further, we believe that any changes in the criteria, without an in-depth study and comment from the scientific community, would result in very serious legal and technical challenges from the private sector, State and local governments, and other Federal agencies. These challenges would arise because of the wide-spread acceptance of L_{dn} = 55 dB as the criteria for establishing noise limits and other controls across a broad spectrum of environmental noise situations. Likewise, such hasty action could precipitate a renewed political interest in the noise program and result in demands for new congressional oversight hearings and criticism of the Agency. Finally, any change in the L_{dn} criteria would necessarily have an impact on the existing regulations for medium and heavy trucks, motorcycles, and portable air compressors, quite possibly triggering the need to carry out a regulatory impact analysis under Executive Order 12291. Here again, we are faced with extremely limited time and presently inadequate personnel and funding resources to embark on such activity.

The most expeditious and least controversial approach (technically, legally and politically) for the Agency to extricate itself from its incomplete regulatory agenda appears to be the "modified approach" recommended by the OGC in their draft memoranda. This approach would permit the present Administrator or future Administrators to reassess and, if appropriate, move forward with noise emission regulations for those products previously determined to be major sources of noise. This, of course, presumes that the Noise Control Act remains in its present form. However, should the Congress eventually pass one of the proposed revisions to the Act, then the Agency's authority to regulate all but surface transportation equipment would be revoked, thereby relieving the Administrator of any future regulatory considerations for the products previously identified, with the exception of buses.

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